

Application Serial No.: 09/886,213
Amendment dated September 26, 2003
Reply to Office Action dated June 26, 2003

REMARKS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 2-4, 6-8, and 25-27 are pending in this case, Claims 2 and 25-27 having been amended by way of the present Amendment and Claims 1, 5, and 9-24 having been canceled without prejudice or disclaimer.

In the outstanding Official Action, several suggestions were made for amending Claims 2 and 25-27. Non-narrowing amendments have been made to Claims 2 and 25-27 that the Applicants submit address these issues.

Claim 26 was rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 26 has been amended to address the indefiniteness rejections raised in the Official Action. More specifically, Claim 26 has been amended to read "heat-treating the substrate held on a supporting and heating member *having support pins*." (Emphasis added.) The Applicants submit that the amended language of Claim 26 clearly recites that the supporting and heating member has support pins capable of appearing and disappearing from and into the holding and heating member and that the heat-treating step is performed while the substrate is held on the supporting and heating member. The Applicants submit that the language of Claim 26 is definite under 35 U.S.C. 112, second paragraph. Accordingly, the Applicants request the withdrawal of the indefiniteness rejections.

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Claims 2-8 and 25-27 were rejected under 35 U.S.C. 102(e) as being anticipated by You et al. (U.S. Patent No. 6,066,574). For the reasons discussed below, the Applicants request the withdrawal of the anticipatory rejection.

In the Office Action, the You et al. reference is indicated as anticipating each of Claims 2 and 25-27. However, the Applicants note that a claim is anticipated only if each and every element as set forth in the claims is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). As will be demonstrated below, the You et al. reference clearly does not meet each and every limitation of the independent Claims 2 and 25-27.

Claims 2 and 25-27 have been amended to include subject matter from original Claim 5. Thus, the Applicants submit that no new matter has been entered.

Claims 2 and 25-27 of the present application recite methods to heat-treat a substrate coated with a coating solution which oxidizes at a high temperature, where the methods comprise, among other steps, the step of lowering an oxygen concentration of a treatment atmosphere by replacing the treatment atmosphere with inert gas when a temperature of the substrate is lower than the temperature at which the coating solution oxidizes. (See disclosure on page 8, line 36 to page 9, line 14 and page 11, lines 3-16, of the specification).

The Applicants respectfully submit that the You et al. reference does not disclose a method including a step of lowering an oxygen concentration of a treatment atmosphere by replacing the treatment atmosphere with inert gas when a temperature of the substrate is lower than the temperature at which the coating solution oxidizes, as recited in Claims 2 and

25-27. The You et al. reference describes an inert gas, such as N₂, for preventing oxidation of the BCB ILD material and the wafer during the elevated temperatures. (Column 6, lines 35-37.) The claims of the present invention use the inert gas when a temperature of the substrate is lower than the temperature at which the coating solution oxidizes, whereas the You et al. reference uses inert gas during the elevated temperatures. Thus, the present invention is distinguishable over the invention described in the You et al. reference.

Moreover, in the You et al. reference oxygen remaining in the chamber 19 which is being exhausted to a desired vacuum level (column 6, lines 38-39) could cause oxidation during the elevated temperatures. On the contrary, in the claimed invention, oxygen remaining in the chamber while being replaced by inert gas does not cause oxidation because it is replaced when a temperature of the substrate is lower than the temperature at which the coating solution oxidizes, as shown in FIG. 7 in which gas replacement is performed (period (1) in FIG. 7, about 30 seconds, as disclosed on page 11, lines 3-16 of the specification of the present application).

Accordingly, the Applicants respectfully request the withdrawal of the anticipation rejection of Claims 2 and 25-27.

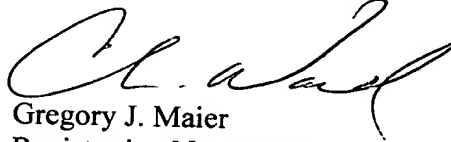
Claims 3, 4, and 6-8 are considered allowable for the reasons advanced for Claim 2 from which they depend. These claims are further considered allowable as they recite other features of the invention that are neither disclosed, taught, nor suggested by the applied references when those features are considered within the context of Claim 2.

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Consequently, in view of the above discussion, it is respectfully submitted that the present application is in condition for formal allowance and an early and favorable reconsideration of this application is therefore requested.

Respectfully Submitted,

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